

Remarks

Claims 4-24 and 25-28 are pending in the application. Claims 7, 13 and 25-28 have been cancelled without prejudice. Claims 4, 8, 11-12, 14-18, 20, and 22 are amended.

The drawings are objected to under 37 CFR 1.83(a). In particular, the Examiner objects that the “plurality of independently operable light emitting devices” are not shown. Without acquiescing in the Examiner’s objection, Applicants have amended the claims in a manner that overcomes the objection.

The Examiner further objects that reflective louvers of claim 10 are not shown. Applicants respectfully disagree. Applicants disclose absorptive microlouvers 614. Applicants further disclose that such absorptive regions can, in the alternative, be reflective (page 20, line 29 through page 21, line 2). As such, Applicants disclose that regions 614 can be absorptive or reflective. Therefore, reflective microlouvers are shown.

The Examiner also objects that electroluminescent, organic electroluminescent, and phosphor-based light emitting devices are not shown. Applicants show an emissive device, such as elements 112 or 512. Applicants further disclose that such a device can include any suitable emissive device such as an electroluminescent device, an organic electroluminescent device, or a phosphor-based device (page 5, lines 14-18). As such, element 112 or 512 can, for example, be an OLED device. Therefore, the devices referred to by the Examiner are adequately shown.

The Examiner further objects that microstructured surface and volume diffuser of claims 12 and 22 are not shown in a separate figure. Applicants show a volume diffuser such as elements 330 and 340, and a microstructured surface such as elements 516 and 534. Therefore, the objected to elements are adequately shown.

Claims 4, 7, 8, 11, 13, and 22 are objected to for minor informalities. Applicants believe the amended claims overcome the Examiner’s objection and, therefore, request withdrawal of the objection.

Claims 4, 5, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (US 6,275,338) in view of Evanicky et al. (US 6,611,249). Applicants respectfully disagree.

In rejecting Claim 4, the Examiner states that Arai et al. discloses a light emitting device 2, a transmissive layer 1 or 3, and a volume diffuser 5 that inherently frustrates total internal reflection. Furthermore, the Examiner states that Evanicky et al. discloses a plurality of independently operable light emitting devices 132 and 136 that could have been used to modify the device disclosed by Arai et al.

First, Applicants claim an emissive display capable of displaying information, meaning that the emissive display itself is an information display. In sharp contrast, neither light source 2 of Arai et al. nor light sources 132 and 136 of Evanicky et al. are capable of displaying information. Instead, each of these references discloses backlights that provide light to light valves such as liquid crystal displays which display the information. Not only do the light sources of these references not display information themselves, it is not clear how they could be modified to do so within the teachings of these references. As such, Evanicky et al. does not cure deficiencies of Arai et al.

Second, diffuser 5 of Arai et al. neither by design nor inherently frustrates total internal reflections of light emitted by light source 2. This is so because Arai et al. does not teach or suggest indices of refraction of the materials forming diffuser 5 and light regulation element 3. In fact, Arai et al. only teaches (col. 5, lines 40-46) coating diffuser 5 on element 3 to reduce Fresnel reflection losses of about 5 to 10%. Furthermore, it cannot reasonably be said that diffuser 5 inherently frustrates total internal reflection because Arai et al. does not teach that, for example, material of diffuser 5 has a higher index of refraction than the material of element 3. In addition, Arai et al. does not teach or suggest angle of incidence of a ray of light incident at the interface between diffuser 5 and element 3. As such, Arai et al. does not teach or suggest that any such light ray would necessarily suffer total internal reflection if an air gap existed between diffuser 5 and element 3, or that if it did, the elimination of the air gap would frustrate total internal reflection.

The Examiner further claims that Arai et al. and Evanicky et al. teach the additional elements recited by the present Claims 5, 16, 18 and 19. While the Applicants do not concede

that these references teach all of these limitations, these claims are allowable over these references for the reasons described above with respect to claims 4, 5, 16, 18 and 19.

Claim 6 is rejected under U.S.C. 103(a) as being unpatentable over Arai et al. in view of Evanicky et al. and Suzuki et al. (US 5,600,462). Applicants respectfully disagree. Like in the Arai et al. and Evanicky et al. patents, the light source taught by Suzuki et al. is not, by itself, able to display information, but instead, serves as a backlight for a light valve.

Claims 8, 9, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. (US 5,557,433) in view of Pichler (US 5,929,562). Applicants respectfully disagree. Like the previously discussed references, the Maruyama et al. patent teaches a backlight for a light valve. This can not readily be modified to display information directly. The Pichler patent replaces both the light source and light valve of Maruyama et al. with emissive display elements. There is no teaching that would lead one of ordinary skill in the art to combine them.

Furthermore, the Examiner states that the spaces between lines of element 3 in Maruyama et al. constitute a volume diffuser that frustrates total internal reflection. This is not correct. Maruyama et al. does not teach or suggest that the louver 3 diffuses light. On the contrary, Maruyama et al. discloses a louver that makes light parallel (col. 7, lines 18-19). Maruyama et al.'s louver is used to reduce tone reversal (col. 7, line 26). As such, any suggestion of a diffusive louver would be against Maruyama et al.'s teachings as well as contrary to the general understanding of the operation of louvers.

In addition to not being a diffuser, louver 3 of Maruyama et al. does not accomplish the function of frustrating total internal reflections because the louvers are absorbing and, as such, they do not redirect a light ray that would otherwise suffer total internal reflection. Rather, they absorb the light that strikes them. Thus, the structure taught by Maruyama et al., even if it could be combined with the Pichler patent, does not render the present invention obvious.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. in view of Pichler, and further in view of Tokas (US 5,104,210). Tokas, however, does not add

any teaching to that of Maruyama et al. and Pichler that would render the inventions of the underlying claims obvious. Therefore, the proposed combination does not render the invention of Claim 10 obvious either.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Evanicky et al. Applicants respectfully disagree. For the reasons previously described, neither of these references would lead one of ordinary skill in the art to a display utilizing light emitters capable of displaying information.

Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Arai et al. and Evanicky et al. The Examiner states that it would have been obvious to modify Suzuki et al.'s device of Fig. 3 by replacing Suzuki et al.'s light source (element 7) with multiple lights of Evanicky et al. (Fig. 3), and by adding Arai et al.'s volume diffuser (element 5). Applicants respectfully disagree. None of these references, alone or together, suggest light emitting devices capable of displaying information.

Claim 14 is rejected under U.S.C. 103(a) as being unpatentable over Arai et al. in view of Evanicky et al. and Beeteson (US 5,796,382). Applicants disagree that the present invention is obvious in view of this combination. Beeteson discloses another design for a backlight and does not add anything to the other two references that would suggest a display using light emitting devices that are, themselves, able to display information.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. in view of Evanicky et al. and Pichler. As previously described, none of these references, alone or in combination, would render the inventions of the underlying claims obvious. Therefore, the proposed combination does not render the invention of Claim 15 obvious either.

Claim 17 is rejected under U.S.C. 103(a) as being unpatentable over Arai et al. in view of Evanicky et al., Pichler and Winston et al. (US 5,594,830). Winston et al. teaches another

backlight and does not add any teaching that would render the underlying claims obvious. Therefore, the proposed combination does not render the invention of Claim 17 obvious either.

In view of the amendments and reasons provided above, the pending claims are clearly in condition for allowance. Applicants respectfully request that the Examiner reconsider the rejections and allow all the claims currently pending.

Respectfully submitted,

MARCH 22, 2004
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